

KNOWLEDGE AND PRACTICE OF SELF - CARE AMONG PATIENTS WITH POST - OPERATIVE OF THE LOWER THIRD MOLAR AT THE AIR DEFENSE - AIR FORCE ACADEMY AND RELATED FACTORS

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ABSTRACT

Objective: Describe the knowledge and practice of self-care among patients with post-operative of the lower third molar at the Air Defense – Air Force Academy and related factors. **Participants and methods:** A cross-sectional descriptive study on 99 patients with post-operative of the lower third molar treated as outpatients at Dental Center 225, Air Defense – Air Force Academy from December 2021 to June 2022. **Results:** The percentage of patients with post-operative of the lower third molar accounted 80.8%, and 66.7% for self-care knowledge and practice.. The study initially identified the related factors of female patients with a history of first surgery had better knowledge. The patients with high education and good social support had better self-care practice. Patients with self-care knowledge achieved self-care practice 6.5 times higher than those with low self-care knowledge. **Conclusion:** The patient had good knowledge of self-care for post-operative of the lower third molar of lower jaw. The patients had the right knowledge and the practice had good treatment results. Thereby contributing to improving the patient's attitude and behavior in the implementation of self-care for post-operative of the lower third molar.

Keywords: Post-operative of the lower third molar, knowledge, practice, self-care.

1. INTRODUCTION

The third molars are the last to form and can have serious effects on oral health, causing many local and systemic complications [1]. Complications due to eruption of the mandibular third molars often manifest as infections when the periodontal pocket does not communicate with the oral cavity, when the teeth are difficult to erupt, it can cause neurological disorders such as pain or nutritional disorders [2]. The treatment of mandibular third molars is largely surgical. However, the success of a mandibular third molar surgery depends not only on the medical staff, but the patient also

plays an important role in it. The practice of self-care by patients following the advice and advice of doctors and nurses is a key factor [3], [4].

According to Amparo Aloy and colleagues, the 2020 study suggests that the main factors of patients' self-care are non-compliance with daily oral hygiene, smoking habits, and not performing mouthwash with solution. Chlorhexidine and do not take prescribed medication [5]. In Vietnam, according to statistics of the Ministry of Health, more than 90% of the Vietnamese population has oral diseases and more than 50% of the population has

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Received: Dec 07, 2022
Accepted: Jan 02, 2023
Published: Jan 03, 2023

not paid attention to oral health problems, especially related to self-care. treatment in patients [6], [7].

Dental Center 225 under the Air Force Medical Institute is a dental examination and treatment facility for military personnel and people in the vicinity. However, there has not been a study evaluating the self-care ability of patients after third molar surgery, the study was conducted with the objective to describe the knowledge and practice of self-care among the patients with post-operative of the lower third molar at the Air Defense – Air Force Academy and related factors.

2. PARTICIPANTS AND METHODS

2.1. Research participants

Patients who had the lower third molar surgery for outpatient treatment at 225 Dental Center - Air Defense – Air Force Academy.

- *Selection criteria:*

Patient over 18 years old.

Patients can read and understand Vietnamese.

Patients volunteered to participate in the study.

- *Exclusion criteria:*

Patients with comorbidities: blood clotting disorders, memory disorders, neurological disorders, etc.

Women who are pregnant and breastfeeding.

2.2. Research Methods

Research design: Cross-sectional descriptive study.

Sampling: The sample was selected by the convenience sampling method.

Sample size: Select all patients after surgery on the third molars who are eligible for the study. In fact, during the study period, the sample size was 99 patients who met the sampling criteria.

2.3. Time and place of study

The study was conducted from December 2021 to June 2022.

Research setting: Dental Center 225 - Air Defense – Air Force Academy.

2.4. Measurements

The measurement was developed by the authors at Oral Surgery I, Oral Surgery II, Hanoi Medical University in 2021 [2], [8]. The questionnaire was used to measure the knowledge and practice of self-care of patients was developed and referenced a number of tools that have been deployed: Haftom Niguse (2019), “Self-Care Related Knowledge, Attitude, Practice and Associated Factors among Patients with Diabetes in Ayder Comprehensive Specialized Hospital, North Ethiopia. School of Pharmacy Mekelle University College of Health Sciences, Mekelle Ethiopia.” and Le Viet Hanh, Hoang Thi Thanh Ha [9], [10], [11].

Evaluation Criteria

- Assessment of knowledge: A total of 13 questions is 1 point for each correct answer, 0 points for each incorrect or blank answer. Maximum total score 13 points. The level of knowledge is passed if the score of above 70%, not passed if the score is under 70%.

- Practical assessment: 13 multiple choice questions with a correct answer gets 1 point, a wrong answer or a blank one gets 0 points. Maximum total score 13 points. Self-care practice evaluation scale is classified into 2 levels of successful practice

and unsuccessful practice. The patient passed practice if the score is above 70% of the total score. Practice is not passed if the score is under 70% of the total score.

2.5. Data analysis

Data were entered and analyzed using SPSS 20.0 software, using frequencies (n) and percentages to describe Knowledge and practice of self-care of patients undergoing

tooth extraction surgery of the third molars at lower jaw. Determining related factors using χ^2 test and Fisher's, with $p < 0.05$ value is considered to be statistically significant.

2.5. Research ethics

The study was approved by the Ethical Boards of Nam Dinh University of Nursing and 225 Dental Center - Air Defense – Air Force Academy.

3. RESEARCH RESULTS

In 99 patients participating in the study, the percentage of women was nearly twice as high as that of men. About 50% of the participants were aged between 18-24 years old, the proportion of participants of above 45 years old accounted for only 15.2%. Most of the participants had undergraduate and postgraduate degrees (77.8%). Only 32.3% of the participants had the first third molar surgery, the rest had the third molar extraction 1 times or 2 times.

Table 1. Self-care knowledge of patients after the third molar surgery (n = 99)

Self-care knowledge	Characteristics	Number	Ratio %
Biting cotton gauze	Yes	93	93.9
	No	6	6.1
Cold compress	No	27	27.3
	Yes	72	72.7
Need to maintain a diet	No	2	2.0
	Yes	97	98.0
Need to rinse your mouth	No	54	54.5
	Yes	45	45.5
Spitting or sucking for 24 hours after surgery	No	98	99.0
	Yes	1	1.0
Use your finger to touch the alveolar point within 24 hours of surgery	No	98	99.0
	Yes	1	1.0
Adhere not to use alcoholic beverages after surgery	No	95	96.0
	Yes	4	4.0
Adhere to medication use as prescribed	No	1	1.0
	Yes	98	99.0
Need a follow-up visit	No	8	8.1
	Yes	91	91.9

Percentage of patients with knowledge of self-care after third molar surgery of lower jaw was quite high, accounting for the following proportions of biting cotton gauze (93.9%), cold compressing (72.7%), not spitting or sucking (99%), not touching touch the alveolar point (99%), adherence to medication (99%), need to go for follow-up visits (91.9%).

Table 2. Knowledge classification of participants (n = 99)

Status	Number	Ratio %
Passed	80	80.8
Not passed	19	19.2

The proportion of patients with passed knowledge accounted for 80.8%.

Table 3. Passed self-care practice of participants

Self-care practice		Frequency (n)	Ratio %
Bite the gauze/cotton firmly for the first 45 minutes	No	1	1.0
	Yes	98	99.0
Apply ice packs (cold packs) for the first 24 hours	No	30	30.3
	Yes	69	69.7
Maintain a soft, liquid, and cold diet for the first 24 hours	No	0	0
	Yes	99	100
Gargle for the first 24 hours	No	56	56.6
	Yes	43	43.4
Spitting or sucking for 24 hours after surgery	No	92	92.9
	Yes	7	7.1
Touch the surgical area with finger	No	95	96.0
	Yes	4	4.0
Smoking (men only)	No	24	68.6
	Yes	11	31.4
Take the right medicine	No	1	1.0
	Yes	98	99.0
Using alcohol/beer, alcoholic beverages after surgery	No	92	92.9
	Yes	7	7.1
Use mouthwash after surgery	No	6	6.1
	Yes	93	93.9
Practice opening and closing your mouth after surgery	No	6	6.1
	Yes	93	93.9

Self-care practice		Frequency (n)	Ratio %
Strenuous activity after surgery	No	99	100
	Yes	0	0
Timely follow-up after surgery	No	17	17.2
	Yes	82	82.8

Most of the participants responded to the performance of self-necessary care activities after the third molar surgery with a relatively high rate of over 80%. In which the highest compliance actions such as maintain a soft, liquid and cold diet in the first 24 hours; no strenuous activity after surgery; taking medicine as prescribed,... were from 92.9% to 100%.

Table 4. Classification of self-care practices of study participants

Status	Number	Ratio %
Passed	66	66.7
Not Passed	33	33.3

66.7% of the study participants had successful self-care practice after third molar surgery.

Table 5. Relationship between self-care knowledge and characteristics of participants

	Passed		Not passed		p
	Number	Ratio %	Number	Ratio %	
Gender					
Male	26	72.2	10	27.8	p = 0.101
Female	54	85.7	9	14.3	
Level Education					
High school	8	72.7	3	27.3	p = 0.017 *
College	8	72.7	3	27.3	
University	59	88.1	8	11.9	
After university	5	50.0	5	50.0	
History of molar extraction					
0	47	92.2	4	7.8	p = 0.001
1	19	59.4	13	40.6	
2	14	87.5	2	12.5	

* Fisher's test

There was a relationship between self-care knowledge with education level and post-surgery history of third molars of patients in the study ($p < 0.05$). No relationship was found between gender and self-care knowledge of patients after third molar surgery.

Table 6. Relationship between self-care practice and characteristics of participants

	Passed		Not passed		P
	Number	Ratio %	Number	Ratio %	
Number of times to extract third molar, lower jaw					
0	37	72.5	14	27.5	0.43
1	19	59.4	13	40.6	
2	10	62.5	6	37.5	
Social support					
Good	64	69.6	28	30.4	0.027*
Poor	2	28.6	5	71.4	

* *Fisher's test*

The study determined that patients after surgery for third molar with good social support had better self-care practices than patients with poor social support ($p < 0.05$). The study did not find a significant relationship between the factors of tooth extraction history and self-care practice of the participants.

Table 7. The relationship between practice and self-care knowledge of participants

Knowledge	Passed		Not passed		P
	Number	Ratio %	Number	Ratio %	
Passed	60	75.0	20	25.0	p < 0.001 OR = 6.5 95%CI: 2.2 - 19.4
Not passed	6	31.6	13	68.4	

People with good self-care knowledge had self-care practice accounting for 75%, statistically significantly higher than those with low self-care knowledge.

4. DISCUSSION

Most of the study participants had self-care knowledge passed after third molar extraction: biting gauze/cotton within the first 45 minutes after surgery (93.9%), soft diet cold liquids in the first 24 hours after surgery (98%), not using alcohol after surgery (96%), comply with the correct medication prescribed by the doctor (99%), follow up on time after surgery (91%)... The above knowledge is very important to help control and prevent complications

after surgery on the lower third molar. According to the previous research, similar to the results, patients with good knowledge of following instructions after surgery of the third molar may have better treatment results [5], [12].

The results of our study indicated that the rate of participants following a suitable diet after surgery was 98%. According to a study by Deborah Sybil (2022), the proportion of study participants who followed the prescribed diet accounted for 67% [13] and

Manuel Sancho-Puchades in 2012 showed that patients after surgery to remove molars third at lower jaw. All patients had self-care and adherence to the diet ($t = -0.193$; $df = 34$; $p = 0.848$), patients at the beginning of surgery had difficulty eating and chewing mainly due to pain [14]. Patients accumulate knowledge about their eating behavior by repeating real experiences, they realized the need to adhere to appropriate nutrition after surgery. The results of this study are similar to the study of Hoang Thi Thanh Ha in 2021 [11], with 97.62% of patients complying with the prescribed diet, only 2.38% of patients did not comply with the diet. This similarity may be due to the fact that the study participants were all Kinh people, living in cities, and have relatively high levels of education (nearly 70% of patients had university degrees).

In our study, most of the patients adhered to the medication prescribed by the doctor (93.8%). They adhered to the medication for reasons of quick recovery, anti-inflammatory and pain relief. According to a study by Vu Thi Thanh Huong in 2019 showed that 97.94% of patients took the prescribed amount of medicine and the prescribed time, taking the medicine 7 days a week, there was no patient who did not take the drug [15]. Vu Thi Dinh showed that 98.4% of patients adhered to the medication prescribed by the doctor [16]. However, there is a difference with Than Thi Binh [17], the reason why patients did not take the correct dose was fear of taking the drug, which was not good for health, accounting for 8.3%. The patient experienced a side effects accounted for 5%, patients who did not take the full dose due to forgetting accounted for 28.3%. Differences in study results may be due to different locations, sample sizes and research methods.

Self-care knowledge of alcoholic beverage participants after surgery accounted for 92.9%, respectively, higher than the study of Vu Thi Thanh Huong [15]. The patients adhered to limit alcohol consumption, drug adherence accounted for a high rate of 72.36% and 70.1%, respectively. The results of our study are higher than possible because the understanding of the research participants is different.

The relationship between knowledge and practice of patients after third molar extraction at the lower jaw

Research results on the relationship between knowledge and practice of self-care and gender. The percentage of male patients with good self-care knowledge reached 72.2%, female patients with good self-care knowledge reached 85.7% ($OR = 2.03$; $95\% CI = 0.83 - 6.36$). According to the study of Osagie Akpata [18], the self-care knowledge in women is 64.5%, men is 35.5% and is similar to our results, showing that women pay more attention to oral health than men.

Research results showed that people who have their teeth extracted for the first time have better self-care knowledge and practices than those who have had a history of tooth extraction in the past. This result is similar to the study of Vu Thi Dinh, the percentage of participants having the third molar tooth extraction surgery first-timers accounted for the majority of 83.9% and these people were better able to follow instructions [16]. The study results have a high rate of patients with good self-care practice, possibly because most of the study participants live in big cities, have better care conditions and have access to information on disease prevention and

health care services, complications of the disease, as well as modern facilities are supported better information exchange more convenient than people living in other provinces.

In the study, the proportion of participants with good practice accounted for 69.6% ($p = 0.027$, $OR = 5.7$, $95\% CI = 1.1 - 31.3$) who received good social support after surgery with 5.7 times better self-care practices than those without good social support. According to the results of Freudenberger [4] in 2018, the supportive relationship of medical staff, doctors and nurses with outpatients contributes to improving self-care outcomes of patients. Research by Nguyen Thi Thom in 2017 [19] shows that the better social support patients have, the better the patient's self-care, patients with high social support adhere to treatment up to 89, 9%, while in patients with low social support only 47.5% adhered to treatment. Self-care guidelines to help patients recover quickly, including the close relationship between the nurse and the patient,

The study identified an association between self-care knowledge and practice. The people with good self-care knowledge had 6.5 times better self-care practices than those with poor self-care knowledge ($p < 0.001$; $OR=6.5$; $95\%CI = 2.2 - 194$). According to a study by Nguyen Thi Thom in 2017, the rate of participants with knowledge to achieve treatment adherence was 98.55% [19]. Similar to the study of Vu Thi Thanh Huong [15], knowledge is related to self-care practice, implementation of a healthy diet, specifically, patients have good knowledge to adhere to a healthy diet better than patients with poor knowledge ($OR = 2.11$; $95\% CI = 1.06 - 4.21$). Patients with disease knowledge will help them better understand health problems

and treatments, this will lead to beneficial changes in awareness and implementation of good self-care practices [19]. Self-care knowledge is also the foundation of self-care practice, with patients after extraction of the third molar. It is very important to acquire relevant knowledge to help patients enhance good self-care practices for themselves and the community. Patients with the right knowledge are more confident that their own care can perform well.

Limitations of the study. The study used a non-probability sampling method with a limited time to collect data and a small sample size with 99 patients at the Dental Center 225 - Air Defense – Air Force Academy, the results only reflect the self-care knowledge and self-care practices of the patient after third molar surgery within the scope of the study and cannot be extrapolated.

5. CONCLUSION

Self-care knowledge and self-care practices of patients after extraction of the third molars all accounted for a relatively high rate of 80.8% and 66.7%, respectively. The study identified a number of factors related to knowledge and practice of self-care of patients after third molar surgery including: gender, history of tooth extraction, education level, social support. Patients with good self-care knowledge had self-care practice 6.5 times higher than those with low self-care knowledge. The research results serve as a basis to help nurses develop appropriate care plans and have methods of health education for patients with inadequate knowledge and practice to contribute to improving knowledge, attitudes and behaviors of self-care behavior for patients after extraction of the lower third molar.

REFERENCES

1. Pham Cong Minh (2014), Comment on common complications caused by lower wisdom teeth. *Graduation thesis of Doctor of Medicine*, Hanoi Medical University.
2. Oral surgery II, book for students of Odonto-Stomatology (2021). Ha Noi medical university.
3. Yasemin Altinbas (2021). Relationships Among Self-Care Agency, Health Perceptions, and Activities of Daily Living in Patients After Tracheostomy: A Cross-sectional Multisite Study. *Adiyaman University*, Adiyaman, Turkey.
4. Freudenberger DC, Baker EA, Siljander MP at al (2018). Factors Driving Patient Perception of Quality Care After Primary Total Hip and Total Knee Arthroplasty. Department of Orthopedic Surgery (Dr. Siljander and Dr. Rohde), and the Department of Orthopedic Research (Ms. Freudenberger and Dr. Baker), Beaumont Health, Royal Oak, MI, and the Department of Orthopedic Surgery, Oakland University-William Beaumont School of Medicine, Rochester. *J Am Acad Orthop Surg Glob Res Rev.* 2(11):e061. doi: 10.5435/JAAOSGlobal-D-18-00061
5. Aloy-Prósper A, Pellicer-Chover H, Balaguer-Martínez J, Llamas-Monteagudo O, Peñarrocha-Diago M. Aloy-Proser et al (2020). Patient compliance to instructions after third molar surgery comparing traditional verbally and written form versus the effect of a postoperative phone call follow-up a: A randomized clinical study. DDS, PhD. Assistant Professor of Oral Surgery, Stomatology Department, Faculty of Medicine and Dentistry, University of Valencia, Spain. *J Clin Exp Dent*;12(10):e909-e915. doi: 10.4317/jced.56680.
6. Ministry of Health (2021). National Hospital of Odonto-Stomatology in response to World Oral Health Day. Central health education and communication center.
7. Nguyen Thi Luyen (2015), Evaluation of the results of Paran II mandibular wisdom tooth extraction surgery without closing the socket. *Thesis of Master of Medicine*. Hanoi Medical University.
8. Oral surgery I, book for students of Odonto-Stomatology (2021). *Hanoi Medical University*
9. Niguse H, Belay G, Fisseha G at al (2019). Self-care related knowledge, attitude, practice and associated factors among patients with diabetes in Ayder Comprehensive Specialized Hospital, North Ethiopia. Ethiopian kelle. School of Pharmacy, College of Health Sciences, Mekelle University, Mekelle, Ethiopia. *BMC Res Notes*;12(1):34. doi: 10.1186/s13104-019-4072-z
10. Le Viet Hanh (2021). Knowledge and practice of self-care of patients with type 2 diabetes treated as outpatients at a hospital built during the Covid-19 period in 2021. *Master thesis*, Nam Dinh University of Nursing
11. Hoang Thi Thanh Ha (2021). Current status of knowledge, practice and adherence to treatment of patients with retinal detachment at the National Eye Hospital in 2021. *Master's thesis in nursing*, Nam Dinh University of Nursing.
12. Sheno RS, Rajguru JG, Parate SR, Ingole PD, Khandaitkar SR, Karmarkar JS. Sheno et al (2021). Compliance of postoperative instructions following the surgical extraction of lower third molars. Department of Oral and Maxillofacial Surgery, VSPM Dental College and

Research Centre, Nagpur, Maharashtra, India. *Indian J Dent Res*;32(1):87-91. doi: 10.4103/ijdr.IJDR_323_20.

13. Sybil D, Krishna M, Shrivastava PK, Singh S, Khan I. Deborah Sybil (2022). Innovative App (ExoDont) and Other Conventional Methods to Improve Patient Compliance After Minor Oral Surgical Procedures: Pilot, Nonrandomized, and Prospective Comparative Study. Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Jamia Millia Islamia, Delhi, India. *JMIR Perioper Med*;5(1):e35997. doi: 10.2196/35997.

14. Spiring R, Bischoff Wilhelm A. Spiring and Bischoff Wilhelm (1995). Bibliographies on Dorothea Orem's nursing theory. 5th Ed, St. Louis: Mosby -Year Book. *Pflege.NursingScienceQuarterly*,25(1):111-3. DOI:10.1177/0894318411429072

15. Vu Thi Thanh Huong (2019). Self-care behavior and some related factors in hypertensive patients who are being treated as outpatients at Gia Lai Provincial General Hospital in 2019. *Master's Thesis in Nursing*, Nam Dinh University of Nursing.

16. Vu Thi Dinh (2019). Adherence to dental care of patients after extraction of misaligned tooth number 8 at Friendship Hospital Vietnam - Cuba. *Vietnamese scientific journal*.

17. Than Thi Binh (2019). Changing knowledge and practice on treatment adherence of TB patients after health education at Cao Loc Medical Center, Lang Son province, 2019. *Master thesis in nursing*, Nam Dinh University of Nursing.

18. Akpata O, Omoregie OF, Owotade F. Osagie Akpata (2013). Alveolar Osteitis: Patients' compliance to post-extraction instructions following extraction of molar teeth. Department of Oral and Maxillofacial Surgery, University of Benin Teaching Hospital, Benin City, Nigeria. *Niger Med J*;54(5):335-8. doi: 10.4103/0300-1652.122360.

19. Nguyen Thi Thom (2017). Current status of compliance with hypertension treatment of outpatients at Quang Ninh Provincial General Hospital in 2017. *Master's thesis in nursing*, Nam Dinh University of Nursing.